

To: Tina Laidlaw/MO/R8/USEPA/US@EPA[]
From: "McInnis, Amanda"
Sent: Thur 8/25/2011 4:01:18 PM
Subject: Better Late than Never? City of Billings Fact Sheet Update
[CityofBillingsEPASummaryv2.pdf](#)

Tina—

I know this took way too long to get to you (It's my fault the City had the information put together weeks ago), but nevertheless, their finance director took a cut at what rates would be (I also gave her estimated O&M costs) for the three levels of treatment. We did the split between nitrogen and phosphorus to give you a sense of what the City would spend to address each of these. The final table in this revised fact sheet gives the updated information.

It seems like it would be worth talking again. Dave Clark and I are going to be in Helena next Wednesday and Thursday. Perhaps we could meet to discuss this further then if you're going to be around.

Amanda

Amanda McInnis, P.E.
Missoula Department Manager

HDR ONE COMPANY | Many Solutions
1715 South Reserve St. Suite C | Missoula, MT | 59801-4708
Phone: 406.532.2210 | Fax: 406.532.2241 | Cell: 406.546.4806 Email: amanda.mcinnis@hdrinc.com

CITY OF BILLINGS, MONTANA NUTRIENT CRITERIA IMPLEMENTATION SUMMARY SHEET

Population: ~100,000 people

WWTP data:

- Capacity: 26 mgd (40 cfs)
- Current Nutrient Performance: 20 mg/L TN, 3 mg/L TP (Designed for BOD removal only)
- Permit Renewal in 2012.

Yellowstone River data:

- Seasonal Low Flow of the Yellowstone at the Point of Discharge: 2,000 cfs
- Upstream Yellowstone River Nutrient Concentrations: -0.025 mg/L TP; 0.4 mg/L TN
- Yellowstone River Standards have not yet be created by MDEQ
- Standards could be close to the upstream values based on downstream modeling.
- If standards are close to upstream values, a variance would be needed under Senate Bill 367.
- As currently drafted, the City of Billings could be granted a variance if they improved plant performance to 10 mg/L TN and 1 mg/L TP.
- Variance would be granted in 2017, after the current legislation sunsets (2016).
- It is unclear what the variance rules would be in 2017.



Cost for Plant Improvements:

- Improvements to get to 10 mg/L TN and 1 mg/L TP are about \$30 million, other plant improvements require an additional \$30M investment. The City Council recently approved the expenditure of these funds.
- Additional O&M due to nutrient control is about \$1M per year in both power and chemical costs.
- Current rates are \$18/month (about 0.5% of MHI).
- The City can fund improvements to 10 mg/L TN and 1 mg/L with nominal future rate increases.
- Using SocioEconomic Indicators, City of Billings would be at more than 2% of MHI before receiving an economic variance (>\$90/month).

Integrated Water Planning

- The City of Billings is being proactive and trying to find other locations for effluent discharge through a stakeholder-based integrated water planning process.
- Candidates include: alfalfa fields, irrigation ditch, and effluent reuse.

Table 1-Montana Cities SocioEconomic Scores Calculation

Table 2-1 Secondary Indicators for the Municipality (or study area)						City of Missoula	City of Great Falls	City of Billings	City of Helena	City of Bozeman		
SocioEconomic Indicators	Indicator	Secondary Indicators			Score							
	Poverty Rate	More than 22%	10-22%	Less than 10%	2	Update this criteria every few years (or after a census)	1	2	3	2	2	
	Low to Medium Income Percentage (LMI)	More than 62%	33-62%	Less than 33%	2	Update this criteria every few years (or after a census)	2	2	3	2	2	
	Unemployment	More than 1% above State Average (>7.2%)	State Average 2009---6.2%	More than 1% below State Average (<5.2%)	2	Update this criteria every few years (or after a census)	1	2	3	3	2	
	Median Household Income	More than 10% below State Median	State Median--\$43,948 (2008)	More than 10% above State Median	1	Update this criteria every few years (or after a census)	1	2	3	2	2	
	Property Tax, fees and revenues divided by MHI and indexed by population	More than 3.5	3.5 to 2	Less than 2	3	Update this criteria every few years (or after a census)	2	2	2	2	2	
	* Weak is a score of 1 point											
** Mid-Range is a score of 2 points												
*** Strong is a score of 3 points												
SUM:					10	Sum:	7	10	14	11	10	
Equal to the Sum divided by the number of Indicators given a score					AVERAGE:	2.00	Average:	1.4	2	2.8	2.2	2
%MHI	http://www.epa.gov/waterscience/standards/econworkbook/table21.html					%MHI:	1.0%	1.5%	2.3%	1.8%	1.5%	
Note: If the applicant is not able to develop one or more of the five indicators, they must provide an explanation as to why the indicator is not appropriate or not available.						MHI	\$ 37,291	\$ 42,056	\$ 48,470	\$ 44,946	\$ 44,776	
						Current Rate \$/mo	11.5	17.07	14.29	17.82	23.47	
						Rate to %MHI Target	\$ 31.08	\$ 52.57	\$ 90.88	\$ 65.55	\$ 55.97	

Table 2-Preliminary Capital Cost Estimates for Nutrient Related Improvements in Billings, Montana

Level of Nutrient Removal	Estimated Capital Cost	TN Related Capital Cost	TP Related Capital Cost	Estimated Average Residential WW Rate to Fund (in FY 15 dollars)
10 mg/L TN, 1 mg/L TP	\$30M	\$20	\$20	~\$30/month
5 mg/L TN, 0.1 mg/L TP	\$60M	\$35	\$25	~\$40/month
3 mg/L TN, 0.03 mg/L TP	\$80M	\$40	\$40	~\$50/month
Reverse Osmosis	\$300M			>\$100/month